

CLAIMS

1. A quilting apparatus for guiding a sewing machine relative to at least one layer of fabric, the quilting apparatus comprising:

a quilting frame shaped to dispose the fabric in a substantially planar orientation defined by lateral and longitudinal dimensions;

a support structure removably mountable to a working surface to attach the quilting frame to the working surface; and

a carriage assembly disposed to transport the sewing machine with respect to the fabric along the lateral and longitudinal dimensions.

2. The quilting apparatus of claim 1, wherein the support structure comprises a support leg having an L-shape with a generally horizontal portion that rests on and lies along the working surface, and a generally vertical portion to which the quilting frame is attached.

3. The quilting apparatus of claim 2, wherein the quilting frame is attachable at multiple positions along the generally vertical portion to permit adjustment of a height of the quilting frame over the working surface.

4. The quilting apparatus of claim 1, wherein the carriage assembly is supported by the working surface.

1 5. The quilting apparatus of claim 4, wherein the carriage assembly
2 comprises a lower carriage component supported by the working surface and constrained
3 to move along one of the lateral and longitudinal dimensions, and an upper carriage
4 component supported by the lower carriage component and constrained to move along
5 the other of the lateral and longitudinal dimensions, the upper carriage component
6 comprising a surface on which the sewing machine is removably disposable.

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8 6. The quilting apparatus of claim 4, further comprising a track removably
9 disposable on the working surface, wherein the carriage assembly is guided by the track.

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11 7. The quilting apparatus of claim 1, wherein the quilting frame comprises
12 two opposing end plates extending along the lateral dimension, each of the end plates
13 comprising a plurality of receiving apertures positioned to receive a plurality of support
14 members extending longitudinally between the end plates to act as spools for storing at
15 least a portion of the fabric.

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17 8. The quilting apparatus of claim 7, wherein each of the end plates
18 comprises a one-piece structure that permits positioning of the fabric in the substantially
19 planar orientation independent of attachment of the quilting frame to the working surface.

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21 9. The quilting apparatus of claim 7, wherein each of the support members
22 comprises a one-piece structure with a fixed length such that the end plates are separated
23 by a fixed, non-adjustable displacement.

1 10. The quilting apparatus of claim 7, wherein each of the support members
2 comprises an adjustable length to permit adjustment of a longitudinal dimension of the
3 quilting frame to a length of the working surface.

1 11. A quilting apparatus for guiding a sewing machine relative to at least one
2 layer of fabric, the quilting apparatus comprising:

3 a quilting frame shaped to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 a support structure that disposes the quilting frame at an adjustable height above a
6 working surface; and

7 a carriage assembly disposed to transport the sewing machine with respect to the
8 fabric along the lateral and longitudinal dimensions.

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10 12. The quilting apparatus of claim 11, wherein the support structure
11 comprises a support leg having an L-shape with a generally horizontal portion that rests
12 on and lies along the working surface, and a generally vertical portion to which the frame
13 is attached.

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15 13. The quilting apparatus of claim 12, wherein the vertical portion comprises
16 a slotted opening that cooperates with an adjustable mechanism attached to the quilting
17 frame, wherein the adjustable mechanism releasably grips the vertical portion to dispose
18 the quilting frame at the adjustable height.

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20 14. The quilting apparatus of claim 13, wherein the adjustable mechanism
21 comprises a knob that threadably engages the quilting frame through the slotted opening.

1 15. A quilting apparatus for guiding a sewing machine relative to at least one
2 layer of fabric, the quilting apparatus comprising:

3 a quilting frame shaped to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 a support structure that disposes the quilting frame above a working surface; and

6 a carriage assembly disposed to transport the sewing machine with respect to the
7 fabric along the lateral and longitudinal dimensions, the carriage assembly comprising a
8 lower carriage component supported by the working surface and constrained to move
9 along one of the lateral and longitudinal dimensions, and an upper carriage component
10 supported by the lower carriage component and constrained to move along the other of
11 the lateral and longitudinal dimensions, the upper carriage component comprising a
12 surface on which the sewing machine is removably disposable.

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14 16. The quilting apparatus of claim 15, wherein a first track is disposed on the
15 working surface and a second track is disposed on the lower carriage component, wherein
16 the lower carriage component comprises a plurality of wheels disposed to ride along the
17 first track and the upper carriage component comprises a plurality of wheels disposed to
18 ride along the second track.

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20 17. The quilting apparatus of claim 15, wherein the carriage assembly
21 comprises a handle disposed to be gripped by a user to facilitate actuation of the carriage
22 assembly in the longitudinal and lateral directions by hand.

1 18. A quilting apparatus for guiding a sewing machine relative to at least one
2 layer of fabric, the quilting apparatus comprising:

3 a quilting frame shaped to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 a first track removably disposable on a working surface; and

6 a carriage assembly supported by the working surface such that the carriage
7 assembly is guided by the first track to transport the sewing machine with respect to the
8 fabric.

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10 19. The quilting apparatus of claim 18, further comprising a second track
11 removably disposable on the working surface, parallel to the first track, such that the first
12 and second tracks cooperate to guide the carriage assembly.

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14 20. The quilting apparatus of claim 18, wherein the carriage assembly
15 comprises a plurality of wheels disposed to ride along the first track.

1 21. A method for guiding a sewing machine relative to at least one layer of
2 fabric mounted on a quilting frame, the method comprising:

3 using the quilting frame to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 removably mounting a support structure to a working surface to attach the quilting
6 frame to the working surface; and

7 guiding the sewing machine with respect to the fabric along the lateral and
8 longitudinal dimensions via a carriage assembly.
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10 22. The method of claim 21, wherein the support structure comprises a
11 support leg having an L-shape with a generally horizontal portion and a generally vertical
12 portion, wherein removably mounting the support structure to the working surface
13 comprises resting the generally horizontal portion on the working surface such that the
14 generally horizontal portion lies along the working surface, and attaching the quilting
15 frame to the generally vertical portion.
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17 23. The method of claim 22, wherein the quilting frame is attachable at
18 multiple positions along the generally vertical portion, the method further comprising
19 adjusting a height of the quilting frame over the working surface by attaching the quilting
20 frame to the vertical portion at one of the positions.
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22 24. The method of claim 21, further comprising disposing the carriage
23 assembly such that the carriage assembly is supported by the working surface.

1 25. The method of claim 24, wherein the carriage assembly comprises a lower
2 carriage component supported by the working surface and an upper carriage component
3 supported by the lower component, the method further comprising:

4 constraining the lower carriage component to move along one of the lateral and
5 longitudinal dimensions;

6 constraining the upper carriage component to move along the other of the lateral
7 and longitudinal dimensions; and

8 removably disposing the sewing machine on a surface of the upper carriage
9 component comprising.

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11 26. The method of claim 24, further comprising removably disposing a track
12 on the working surface such that the carriage assembly is guided by the track.

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14 27. The method of claim 21, wherein the quilting frame comprises two
15 opposing end plates extending along the lateral dimension, each of the end plates
16 comprising a plurality of receiving apertures, the method further comprising disposing a
17 plurality of support members to extend longitudinally between the end plates to act as
18 spools for storing at least a portion of the fabric.

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20 28. The method of claim 27, wherein each of the end plates comprises a one-
21 piece structure, wherein disposing the fabric in a substantially planar orientation is
22 carried out substantially independently of attachment of the quilting frame to the working
23 surface.

1 29. The method of claim 27, wherein each of the support members comprises
2 a one-piece structure with a fixed length, wherein disposing the support members to
3 extend longitudinally between the end plates comprises separated by a fixed, non-
4 adjustable displacement.

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6 30. The method of claim 27, wherein each of the support members comprises
7 an adjustable length, wherein disposing the support members to extend longitudinally
8 between the end plates comprises separating the end plates by an adjustable displacement
9 to permit adjustment of a longitudinal dimension of the quilting frame to a length of the
10 working surface.

1 31. A method for guiding a sewing machine relative to at least one layer of
2 fabric mounted on a quilting frame, the method comprising:

3 using the quilting frame to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 disposing the quilting frame at an adjustable height above a working surface via a
6 support structure; and

7 guiding the sewing machine with respect to the fabric along the lateral and
8 longitudinal dimensions via a carriage assembly.

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10 32. The method of claim 31, wherein the support structure comprises a
11 support leg having an L-shape with a generally horizontal portion and a generally vertical
12 portion, wherein removably mounting the support structure to the working surface
13 comprises resting the generally horizontal portion on the working surface such that the
14 generally horizontal portion lies along the working surface, and attaching the quilting
15 frame to the generally vertical portion.

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17 33. The method of claim 32, wherein the vertical portion comprises a slotted
18 opening that cooperates with an adjustable mechanism attached to the quilting frame,
19 wherein disposing the quilting frame at an adjustable height above the working surface
20 comprises releasably gripping the vertical portion with the adjustable mechanism to
21 dispose the quilting frame at the adjustable height.

1 34. The method of claim 33, wherein the adjustable mechanism comprises a
2 knob, wherein disposing the quilting frame at an adjustable height further comprises
3 threadably engaging the quilting frame through the slotted opening with the knob.

1 35. A method for guiding a sewing machine relative to at least one layer of
2 fabric mounted on a quilting frame, the method comprising:

3 using the quilting frame to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 disposing the quilting frame above a working surface via a support structure; and
6 guiding the sewing machine with respect to the fabric along the lateral and
7 longitudinal dimensions via a carriage assembly comprising a lower carriage component
8 supported by the working surface and constrained to move along one of the lateral and
9 longitudinal dimensions, and an upper carriage component supported by the lower
10 carriage component and constrained to move along the other of the lateral and
11 longitudinal dimensions, the upper carriage component comprising a surface on which
12 the sewing machine is removably disposable.

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14 36. The method of claim 35, further comprising disposing a first track on the
15 working surface and disposing a second track on the lower carriage component, wherein
16 the lower carriage component comprises a plurality of wheels disposed to ride along the
17 first track and the upper carriage component comprises a plurality of wheels disposed to
18 ride along the second track.

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20 37. The method of claim 35, wherein guiding the sewing machine with respect
21 to the fabric comprises gripping a handle of the carriage assembly to actuate the carriage
22 assembly in the longitudinal and lateral directions by hand.

1 38. A method for guiding a sewing machine relative to at least one layer of
2 fabric mounted on a quilting frame, the method comprising:

3 using the quilting frame to dispose the fabric in a substantially planar orientation
4 defined by lateral and longitudinal dimensions;

5 removably disposing a first track on a working surface; and

6 using the first track to guide a carriage assembly supported by the working
7 surface to transport the sewing machine with respect to the fabric.

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9 39. The method of claim 38, further comprising removably disposing a second
10 track on the working surface, parallel to the first track, such that the first and second
11 tracks cooperate to guide the carriage assembly.

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13 40. The method of claim 38, further comprising attaching a plurality of wheels
14 to the carriage assembly such that the wheels ride along the first track.